

WHAT IS CLAIMED IS:

1. An image sensing apparatus having at least a filter insertion/removal device which inserts and removes an optical filter for reducing a light quantity to an image sensing element serving as an optical system, comprising:
 - a signal processing device which performs signal processing so as to generate image data from an image sensing signal output from the image sensing element;
- 10 a brightness value calculation device which calculates a first brightness value representing a brightness of part or all of an object which is imaged on the image sensing element;
- 15 a brightness value correction device which calculates a second brightness value by correcting the first brightness value on the basis of a light reduction amount generated by inserting the optical filter by the filter insertion/removal device; and
- 20 a control device which controls the signal processing in said signal processing device by using the second brightness value.
2. The apparatus according to claim 1, wherein said control of the signal processing includes control of white balance processing.
- 25 3. An image sensing apparatus having at least a filter insertion/removal device which inserts and removes an optical filter for reducing a light quantity

to an image sensing element serving as an optical system, comprising:

5 a signal processing device which performs signal processing so as to generate image data from an image sensing signal output from the image sensing element;

10 a brightness value calculation device which calculates a first brightness value representing a brightness of part or all of an object which is imaged on the image sensing element;

15 a brightness value correction device which calculates a second brightness value by correcting the first brightness value on the basis of a light reduction amount generated by inserting the optical filter by the filter insertion/removal device; and

20 15 a control device which controls the optical system by using the second brightness value.

4. The apparatus according to claim 3, wherein said control of the optical system includes control of an exposure value to the image sensing element.

25 5. The apparatus according to claim 4, wherein the optical system further comprises an aperture device which changes an aperture diameter, and control of the exposure value includes control of the aperture diameter of the aperture device.

25 6. The apparatus according to claim 1, wherein the optical filter includes an ND filter.

7. The apparatus according to claim 1, wherein said

brightness value calculation device calculates the first brightness value on the basis of an aperture value determined in accordance with an aperture diameter of an aperture device, a time value determined 5 in accordance with a time during which an object image is formed on the image sensing element, and a sensitivity of the image sensing element.

8. An image sensing method using an image sensing apparatus having at least a filter insertion/removal 10 device which inserts and removes an optical filter for reducing a light quantity to an image sensing element serving as an optical system, comprising:

a first step of calculating a first brightness value representing a brightness of part or all of an 15 object which is imaged on the image sensing element;

a second step of calculating a second brightness value by correcting the first brightness value calculated in the first step on the basis of a light reduction amount generated by inserting the optical 20 filter by the filter insertion/removal device; and

a third step of controlling, by using the second brightness value calculated in the second step, signal processing of generating image data from an image sensing signal output from the image sensing element.

25 9. The method according to claim 8, wherein control of the signal processing in the third step includes control of white balance processing.

10. An image sensing method using an image sensing apparatus having at least a filter insertion/removal device which inserts and removes an optical filter for reducing a light quantity to an image sensing element
5 serving as an optical system, comprising:

a first step of calculating a first brightness value representing a brightness of part or all of an object which is imaged on the image sensing element;

10 a second step of calculating a second brightness value by correcting the first brightness value calculated in the first step on the basis of a light reduction amount generated by inserting the optical filter by the filter insertion/removal device; and
15 a third step of controlling the optical system by using the second brightness value calculated in the second step.

11. The method according to claim 10, wherein control of the optical system in the third step includes control of an exposure value to the image sensing
20 element.

12. A computer-readable recording medium which records a program for controlling an image sensing apparatus having at least a filter insertion/removal device which inserts and removes an optical filter for reducing a light quantity to an image sensing element
25 serving as an optical system, the program causing a computer in the image sensing apparatus to execute:

a first step of calculating a first brightness value representing a brightness of part or all of an object which is imaged on the image sensing element;

a second step of calculating a second brightness

- 5 value by correcting the first brightness value calculated in the first step on the basis of a light reduction amount generated by inserting the optical filter by the filter insertion/removal device; and

- 10 a third step of controlling, by using the second brightness value calculated in the second step, signal processing of generating image data from an image sensing signal output from the image sensing element.

13. The medium according to claim 12, wherein control of the signal processing in the third step includes
15 control of white balance processing.

14. A computer-readable recording medium which records a program for controlling an image sensing apparatus having at least a filter insertion/removal device which inserts and removes an optical filter for
20 reducing a light quantity to an image sensing element serving as an optical system, the program causing a computer in the image sensing apparatus to execute:

- a first step of calculating a first brightness value representing a brightness of part or all of an
25 object which is imaged on the image sensing element;

a second step of calculating a second brightness value by correcting the first brightness value

calculated in the first step on the basis of a light reduction amount generated by inserting the optical filter by the filter insertion/removal device; and

a third step of controlling the optical system by

5 using the second brightness value calculated in the second step.

15. The medium according to claim 14, wherein control of the optical system in the third step includes control of an exposure value to the image sensing

10 element.

16. A program which controls an image sensing apparatus having at least a filter insertion/removal device which inserts and removes an optical filter for reducing a light quantity to an image sensing element

15 serving as an optical system, the program causing a computer in the image sensing apparatus to execute:

a first step of calculating a first brightness value representing a brightness of part or all of an object which is imaged on the image sensing element;

20 a second step of calculating a second brightness value by correcting the first brightness value calculated in the first step on the basis of a light reduction amount generated by inserting the optical filter by the filter insertion/removal device; and

25 a third step of controlling, by using the second brightness value calculated in the second step, signal processing of generating image data from an image

sensing signal output from the image sensing element.

17. The program according to claim 16, wherein control of the signal processing in the third step includes control of white balance processing.

5 18. A program which controls an image sensing apparatus having at least a filter insertion/removal device which inserts and removes an optical filter for reducing a light quantity to an image sensing element serving as an optical system, the program causing a 10 computer in the image sensing apparatus to execute:

a first step of calculating a first brightness value representing a brightness of part or all of an object which is imaged on the image sensing element;

15 a second step of calculating a second brightness value by correcting the first brightness value calculated in the first step on the basis of a light reduction amount generated by inserting the optical filter by the filter insertion/removal device; and

20 a third step of controlling the optical system by using the second brightness value calculated in the second step.

19. The program according to claim 18, wherein control of the optical system in the third step includes control of an exposure value to the image 25 sensing element.